

## Office Action Summary

Application No.

10/624,165

Applicant(s)

PHAM, TIET

Examiner

JENNIFER N. TO

Art Unit

2195

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period **will** apply and **will** expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply **will**, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 March 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5,8-13,16-21 and 23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5,8-13,16-21 and 23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☒ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

1. In view of the appeal brief filed on 03/16/2009, PROSECUTION IS HEREBY REOPENED.

To avoid abandonment of the application, appellant must exercise one of the following two options:

- (1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,
2. (2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.
3. Claims 1-5, 8-13, 16-21, and 23 are pending for examination.

***Claim Rejections - 35 USC § 101***

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 9-13 and 16 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Regarding claims 9-13 and 16, these claims are directed to a system, but lack the necessary physical components (hardware) to constitute a machine or manufacture.

Therefore, these claim limitations (periodic event scheduler, a tick generator, interrupt handler) can be reasonably interpreted as computer program modules - software per se. Specifically, the specification discloses that this invention pertains to a software system (specification, page 17, paragraph [0047], lines 5-6). Since the specification provides intrinsic evidence of software, the claims are construed to cover software under the broadest reasonable interpretation. The claims are directed to functional descriptive material, per se, and hence non-statutory. See MPEP § 2106.01.

### ***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-2, 5, 8-10, 13, 16-18, and 23 are rejected under 35 U.S.C. 102(e) as being anticipated by Dailey (U.S. Publication No. 2003/0217093).

8. Dailey was cited in the previous office action.

9. As per claim 1, Dailey teaches the invention as claim including a method of scheduling a plurality of periodic events, wherein each periodic event has an associated

periodic interval of time and an associated set of services (abstract), the method comprising:

determining when one of the plurality of periodic events occurs (abstract, paragraphs [0005]-[0007], [0024], detecting when one of the periodic event occurs);

determining, for each of the set of services associated with that periodic event if that service is enabled for execution (paragraphs [0028]-[0031], when the periodic event occurs, based on the bit associated with the task, the task manager determining which task is enable/ready for execution); and

distributing the execution of the services associated with that periodic event throughout a next periodic interval of time associated with that periodic event following the occurrence of that periodic event (abstract; figs. 4, paragraph [0034], fig. 4 shown that for each period interrupt, it is associated with a single task, the task for each periodic interrupt should be spread throughout the interval such that it does not occur at the same time. If the periodic interrupt is associated with a plurality of tasks, the plurality of tasks should be spread throughout the interval as well; paragraph [0034]) shown that a trigger can be associated with a set of tasks).

10. As per claim 2, Dailey teaches that wherein one of the periodic events occurs when a periodic interval of time associated with that periodic event elapses (paragraphs [0009], [0024]).

11. As per claim 5, Dailey further teaches configuring at least one set of services associated with that periodic event in a continuous mode in which the service is enable and executed continuously (paragraphs [0028], [0031], [0032], the task manager set the bit variable associated with processing task A, and then perform the task without interrupt (continuously) and a determination is made to determine whether the task is complete before reset the service variable to move to the next task).

12. As per claim 8, Dailey teaches that wherein distributing the execution of the enabled services includes executing successive enabled services on successive clock ticks following the clock tick on which that periodic event occurred (paragraphs [0027]-[0031]).

13. As per claim 9, it is rejected for the same reason as claim 1 above. In addition, Dailey teaches a tick generator that generates interrupts in response to clock ticks (paragraphs [0007]-[0008], and an interrupt handler that receives the interrupts from the tick generator and executes the periodic event scheduler in response to the interrupt (paragraph [0024]).

14. As per claims 10, 13, 16-18, and 23, they are rejected for the same reason as claims 1-2, 5, 8-9 above.

***Claim Rejections - 35 USC § 103***

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. Claims 3, 11, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dailey (U.S. Publication No. 2003/0217093).

17. As per claims 3, 11, and 19, Dailey teaches the invention substantially as claimed in claims 1, 9, and 17 above. Dailey did not specifically teach configuring at least one set of services associated with that periodic event in a one-shot mode in which the service is enable for execution one time and then disable.

18. However, Dailey disclosed setting a execution trigger in a service variable at a predetermined time interval, and task manager based on the service variable enable only one task of a set of processing tasks to perform at each interval (paragraphs [0005], [0035], page 5, claim 14).

19. It would have been obvious to one of an ordinary skill in the art at the time the invention was made to have recognized that Dailey indirectly configuring (setting) at least one of set services (one task of a set of processing task) to perform only one time in the predetermined interval is obvious as configuring at least one set of services

associated with that periodic event in a one-shot mode in which the service is enable for execution one time of the claimed invention. In addition, since the task only allow to perform one per interval, thus after the interval is reached, it would have been obvious for the task to disable. Therefore, it would have been motivated to one of an ordinary skill in the art at the time the invention was made to use the teaching of Dailey to distribute periodic task workloads in such a way that allow the system to process other processing work such as real-time tasks (Dailey, paragraph [0009]).

20. Claims 4, 12, and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dailey (U.S. Publication No. 2003/0217093), as applied in claims 1, 9, 17 above, and in view of Nakano et al (hereafter Nakano) (U.S. Patent No. 7039012).

21. As per claim 4, Dailey teaches the invention substantially as claimed in claim 1 above. Dailey did not specifically teach configuring at least one set of services associated with that periodic event in a burst mode in which the service is enable for execution a predetermined number of times and then is disable.

22. However, Nakano teaches configuring at least one set of services associated with that periodic event in a burst mode in which the service is enable for execution a predetermined number of times and then is disable (figs. 7-8; col. 13, line 66 through col. 15, line 24; col. 25, lines 20-31, 47-49, setting periodic tasks of the group to run predetermined of times and terminated).

23. It would have been obvious to one of an ordinary skill in the art at the time the invention was made to have included the teaching of configuring at least one set of services associated with that periodic event in a burst mode in which the service is enable for execution a predetermined number of times and then is disable as suggested in Nakano into Dailey since both of the system directing to distributing periodic tasks and Nakano address the need of setting periodic tasks of the group to run predetermined of times and disable would improved the integrity of Dailey's system by reducing the overhead required to control the wakeup and sleep of process when scheduling periodic process (Nakano, col. 4, lines 38-44).

24. As per claim 21, Dailey further teaches configuring at least one set of services associated with that periodic event in a continuous mode in which the service is enable and executed continuously (paragraphs [0028], [0031], [0032], the task manager set the bit variable associated with processing task A, and then perform the task without interrupt (continuously) and a determination is made to determine whether the task is complete before reset the service variable to move to the next task)..

25. As per claims 12, and 20, they are rejected for the same reason as claims 4 above.



***Response to Arguments***

26. Applicant's arguments filed 03/16/2009 have been fully considered but they are not persuasive in view of the new ground of rejection.

27. In addition, examiner noted that applicant argued on pages 5-6, that Dailey fail to teach “determining, for each of the set of services associated with that periodic event if that service is enabled for execution” by pointing out that Dailey did not teach enabling and disabling the execution of the periodic tasks.

28. Examiner respectfully disagreed with applicant. First, examiner noted that the recited limitation of “determining, for each of the set of services associated with that periodic event if that service is enabled for execution” did not suggested the function of enabling and disabling the execution of the periodic tasks. Second, Dailey teaches in (paragraphs [0028]-[0031]) when the periodic event occurs, based on the bit associated with the task, the task manager determining which task is enable/ready for execution is the same as determining if that service is enabled (ready) for execution for each of the set of services associated with that periodic event. Therefore, Dailey clearly teach the recited limitation.

***Conclusion***

29. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure (see PTO 892 form for details).

30. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer N. To whose telephone number is (571) 272-7212. The examiner can normally be reached on M-T 6AM- 3:30 PM, F 6AM- 2:30 PM.

31. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

32. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Lewis A. Bullock, Jr./  
Supervisory Patent Examiner, Art Unit 2193

/Jennifer N. To/  
Patent Examiner  
Art Unit 2195